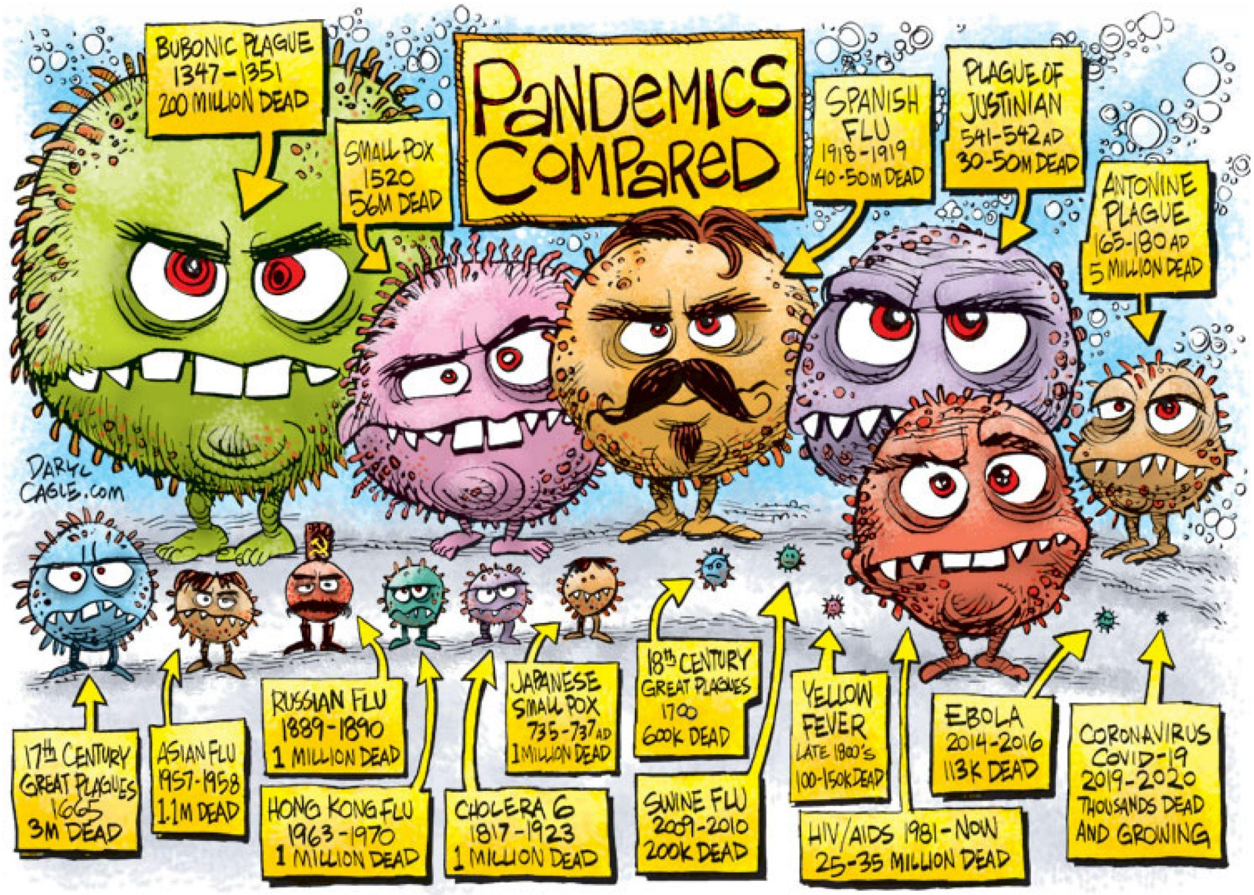
Covid-19 update: so where are we in our ignorance?


PANDEMICS COMPARED
BUBONIC PLAGUE 1347-1351 200 MILLION DEAD
SMALL POX 1520 56M DEAD
SPANISH FLU 1918-1919 40-50M DEAD
PLAGUE OF JUSTINIAN 541-542 AD 30-50M DEAD
ANTONINE PLAGUE 165-180 AD 5 MILLION DEAD
DARYL CAGLE.COM
17th CENTURY GREAT PLAGUES 1665 3M DEAD
ASIAN FLU 1957-1958 1.1M DEAD
RUSSIAN FLU 1889-1890 1 MILLION DEAD
HONG KONG FLU 1963-1970 1 MILLION DEAD
JAPANESE SMALL POX 735-737 AD 1 MILLION DEAD
CHOLERA 6 1817-1923 1 MILLION DEAD
18th CENTURY GREAT PLAGUES 1700 600K DEAD
SWINE FLU 2009-2010 200K DEAD
YELLOW FEVER LATE 1800'S 100-150K DEAD
HIV/AIDS 1981-NOW 25-35 MILLION DEAD
EBOLA 2014-2016 113K DEAD
CORONAVIRUS COVID-19 2019-2020 THOUSANDS DEAD AND GROWING

Daryl Cagle: Pandemics Compared, from a Cartoonists' Perspective

> *In Book Nine of the* Meditations, *he [Marcus Aurelius] compares falsehoods to plague: both are toxic, both to be avoided. But, remarkably, the former is more poisonous. "For corruption of the mind," he writes, "is a far graver pestilence than any comparable disturbance and alteration in the air that surrounds us; for the one is a plague to living creatures as mere animals, and the other to human beings in their nature as human beings."*
>
> ~ Source

Institutions are forming around our reaction to Covid-19, specifically, the mask-wearing, social distancing, lockdowns, shutdowns, etc. These are not temporary. They will have long term disruptive consequences. These institutions are and will consume vast resources. Is their creation justified? I have no clear answers, but questions need to be asked. And I do not see this happening adequately even by otherwise thoughtful people.

There really is a virus out there that seems to be causing more suffering and death than the seasonal flu. There also really is a human response to a pandemic like none we have ever seen before. So much is clear by now. But how are these facts connected? Are the prevailing responses to the pandemic *rationally* justifiable?

Over thirty weeks into the year of the virus, what have we learned about the virus SARS-CoV-2, the disease it causes, and—most importantly for philosophical purposes—the human reaction? The virus and the disease are natural phenomena. The reaction, less so, perhaps. Unless you are a determinist or fatalist, you likely believe we have some control over the reaction. We will engage with this thought.

> **See also our previous discussions of this topic, "A tragedy of errors: Covid-19, fallacies, biases, and trust" and "Covid-19 Part 2: virus v. world."**

The question addressed here is which among the various strategies adopted in response to the Covid-19 pandemic have shown themselves worthy of the costs incurred? In the early phase of the pandemic, there was some controversy as to whether some form of "herd immunity" or "curve flattening" plan would, scaled to match lethality and infectiousness of the disease, result in the least misery and death. These two were the principle proposals. Policy makers in most nations opted for varying degrees of the latter, a very few tried versions of the former. My question is which strategy, if any, has been more effective? One way to gauge relative effectiveness is to query outcomes in nations representative of these strategies. We may ask which country did what right, if any did, in its response to the virus.

> **To cut to the chase, the answer is *none*. Nothing any nation has done is showing signs of defeating the disease—if, by that, we mean stop its relentless progress in culling our species of those vulnerable to it. Other ends may have been effected via these prevailing strategies, but not that one.**

Or, at least evidence to the contrary is lacking...

But the interesting thing is how we arrive at this conclusion, now over a half a year of experience with the disease. Surveying the evidence collected by a massive global scientific effort, surely we have learned a few things, though needless to say, there will always be more to learn—or fail to. Still, I think we know enough to make some tentative inferences.

To be clear, again, my assessment of the pandemic is more about *the human reaction to* the microbe than of the microbe, the SARS-CoV-2 virus. The facts surrounding the latter is a scientific matter. The former is about the stories we tell ourselves in order to cope.

Early on, I was intrigued by the containment/herd immunity controversy. Because of the global human consequences of one strategy over the other, this is essentially a philosophical not a scientific controversy. The actual science on this is unsettled; widespread opinion is not. That said, our imperfect grasp aside, was it/is it better to try to manage this virus by keeping its spread manageable with existing medical infrastructures, or should we pursue, or have pursued, a humbler path, scaling scale down our ambitions to what we have half a chance at managing and work with well-known natural processes and hope for the best?

Covid-19 death rates per million[1]

I've been tracking since early May everyday or every few days how the top 50 most seriously affected countries have been doing relative to each other here:

http://aporia.net/public/Covid-19-deaths-per-million.html

(Scroll left and right to move through time. I color-coded certain countries I am watching closely so you can see their progress over time. Use "Ctrl +" or "Ctrl -" or "Ctrl 0" to zoom in, out, or back to normal, respectively, to get a perspective.)

One of the things that is becoming clear is the convergence between the death rate in Sweden and the U.S. (as well as Mexico). Only a few days ago (September 6-7), the death rate for the U.S. has surpassed that of Sweden. Back in the Spring, the news media were saying Sweden's herd immunity strategy was all wrong, but the numbers now suggest otherwise. If the trend continues, it will tend to show that containment strategy has little to show for itself, given its costs, and may even have compounded the suffering by damaging the socioeconomic infrastructures necessary for material and psychological recovery.

---

[1] Why focus on death rather than infection rates? Which inspires more fear? Being *infected* by a virus characterized as leaving many symptomless, fewer mildly symptomatic, fewer still seriously ill, and a fraction of these dead, or the event of *being* among the latter? First, the observation that someone is dead is *less* subject to the vagaries of expert opinion than whether one has been infected. Even lay persons can usually tell whether someone is dead. Second, because infection rates require great effort to ascertain (mass and accurate testing) they can more easily be manipulated for non-epistemological, most often political, reasons which abound. Not to suggest that death rates, too, can't be manipulated for similar reasons, only that the difficulty is greater. We tend to know when someone close dies, while we tend to be less certain whether someone close is infected.

Indeed, there is convergence everywhere. There seems to be a number, somewhere around 600 dead per million, toward which the most reliable numbers from around the world are converging—this, irrespective of government policies or strategies.

What happens this Winter in Scandinavia should offer revealing evidence of the reality of this convergence number. Note the dramatic difference between Norway and Sweden. Norway applied a severe lockdown strategy very early in the pandemic (you could go to jail for not social distancing). And from the numbers as of now (early September) it is hard not to conclude that Norway has been stunningly successful...

But Norwegians are anxious about a second wave this Fall. Their success thus far has set them up with a large vulnerable population AND a hobbled economy. Norwegian policy makers admit this state of affairs does not leave them in a good position to afford another extreme lockdown. This comes across in interviews and statements both by Camilla Stoltenberg (quoted below in the interview at Unherd.com) and Norway's Prime Minister Erna Solberg (in the article quoted below). The fear is that Norway's death rate per million may skyrocket with the second wave. If that happens, it will further confirm the suggestion that the virus will do what it will do regardless of current human efforts, a miracle vaccine excepted. The virus has a certain quota of the population it wants to kill—if not sooner, then later.

Topics and resources

1. **Why isolating only the vulnerable won't work and the refusal to accept trade offs where some must die.**

"Protecting the Most Vulnerable During this Pandemic is Imperative: Why we can't 'just isolate the old people'" by Andy Slavitt.

2. **The Scandinavian experience**

"What we can learn from the Swedish paradox. There's nothing libertarian about this country. So why the laissez-faire response to Covid-19?" by Freddie Sayers.

3. **Pre-infection immunity**

"Does the Common Cold Protect You from COVID-19? There are emerging signs that some people might have heightened protection against SARS-CoV-2, perhaps thanks to recent infection by other coronaviruses." by Chris Baraniuk.

4. **Containment**

Back in February, Harvard epidemiology professor Marc Lipsitch opined, “I think the likely outcome is that it will ultimately not be containable.”

> ...Marc Lipsitch is exacting in his diction, even for an epidemiologist. Twice in our conversation he started to say something, then paused and said, “Actually, let me start again.” So it’s striking when one of the points he wanted to get exactly right was this: “I think the likely outcome is that it will ultimately not be containable.”
>
> These diseases [SARS and MERS] were highly fatal to humans. If there were mild or asymptomatic cases, they were extremely few. Had there been more of them, the disease would have spread widely. Ultimately, SARS and MERS each killed fewer than 1,000 people.

It is precisely because SARS-CoV-2 is *not* so deadly that it has caused a pandemic. It’s as if it were designed to be just deadly enough to scare us but not so much that it takes us out. In this regard, it is in the same league as the cold and influenza.

> Lipsitch is far from alone in his belief that this virus will continue to spread widely. The emerging consensus among epidemiologists is that the most likely outcome of this outbreak is a new seasonal disease—a fifth “endemic” coronavirus. With the other four, people are not known to develop long-lasting immunity. If this one follows suit, and if the disease continues to be as severe as it is now, “cold and flu season” could become “cold and flu and COVID-19 season.”

Quotes from, “You’re Likely to Get the Coronavirus: Most cases are not life-threatening, which is also what makes the virus a historic challenge to contain.” By James Hamblin, *The Atlantic*, Feb 24, 2020.

5. **Vaccine development**

“When will the Covid-19 vaccine arrive? Thanks to the most skilled forecasters, we now have a pretty good idea of when the nightmare will end” by Saloni Dattani, *Unherd.com.* Will there be a vaccine? The author thinks so. After all, so many resources are being directed at the effort to find one. How can we *not* find one?...

But three quick points: 1.) There is an abundance of motivation to explain why so many resources are being directed at vaccine development: there are vast amounts of money to be made by some people—*whether a vaccine of any quality is found, or not*. 2.) The history of vaccine success with coronavirus type infections is not promising, see below. And 3.) the motivation to do something—*anything*, *irresponsibly so*, in times of crisis is historically well-documented. See Politician's Syllogism. (I am reminded of Diogenes of Sinope's retort when he was asked during a time of crisis why he was rolling a barrel from one place to another with a stick: "I think it incumbent upon me to keep busy doing something since everyone around is.")

But let's be optimistic... for a moment:

There *will* be a useful vaccine by the first days of 2021.[2] How will that affect our response to Covid-19? As vaccines for respiratory illness typically go, what can we expect of this vaccine? Maybe it is not too much to hope that it will be as good as the best vaccines we currently have against influenza? How effective are these? "The impact of influenza vaccines in older people is modest, irrespective of setting, outcome, population, and study design." At best, for one older person not to get a flu-like illness according to a recent review of the literature, 30 such persons must be vaccinated.[3] At best, flu vaccines help about 6% of the time. Flu vaccines are rarely over 50% effective and that happens only in much younger populations.[4]

And what age group is *most* affected by Covid-19?...

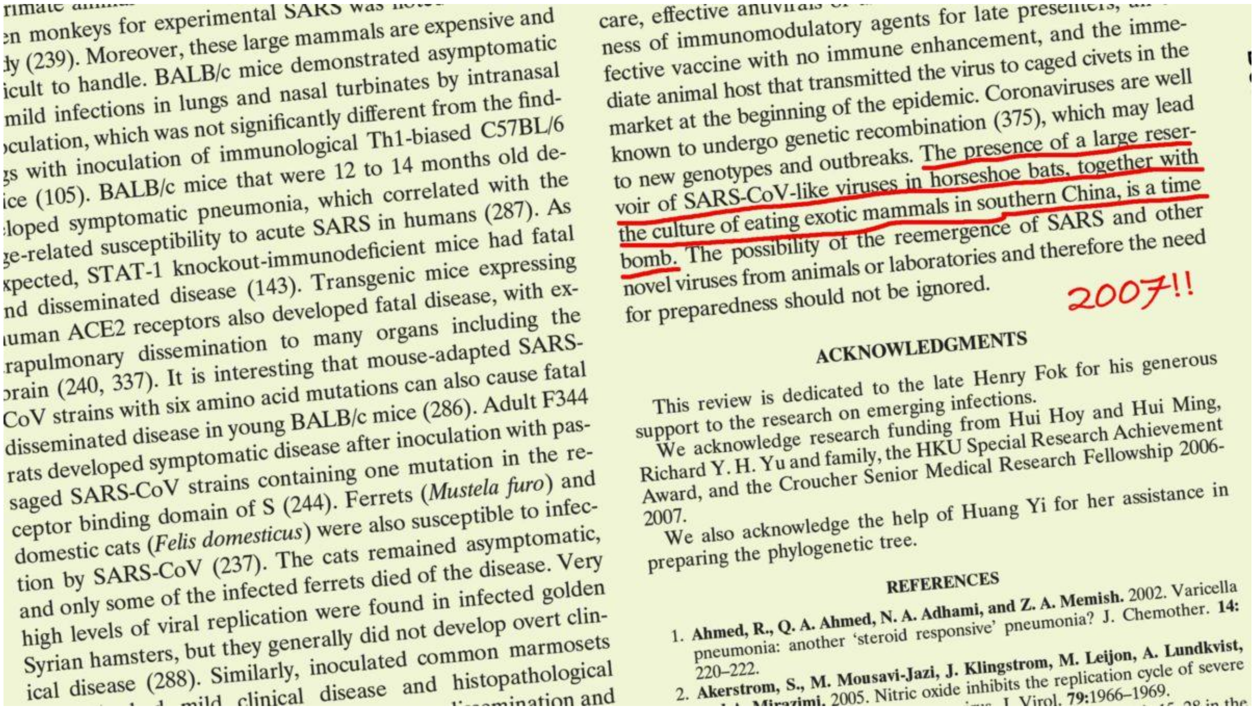
We might do better trying to find a vaccine against pessimism.

---

[2] So suggests Dr. Moncef Slaoui, one of President Trump's vaccine team, in this NPR interview. (Ok, he's not quite as optimistic as Trump's inner team, who suggested it will be ready just days before election day.)

[3] "Vaccines for preventing influenza in the elderly," *Cochrane Database Syst Rev.* 2018 Feb; 2018.

[4] "Influenza Vaccine," *Wikipedia*. "Michael Osterholm, who led the Center for Infectious Disease Research and Policy 2012 review on flu vaccines, recommended getting the vaccine but criticized its promotion, saying, 'We have overpromoted and overhyped this vaccine...it does not protect as promoted. It's all a sales job: it's all public relations.'" Dr. Anthony Fauci of the CDC (who gets paid to say uplifting and sober things to people) is more sanguine on the subject of flu vaccines. People *need* to believe there is something we can do to minify human suffering. However little. A public official who was brutally honest would be derelict in his duty. Surely. Right?



rimate anima…
en monkeys for experimental SARS was …
dy (239). Moreover, these large mammals are expensive and
icult to handle. BALB/c mice demonstrated asymptomatic
mild infections in lungs and nasal turbinates by intranasal
oculation, which was not significantly different from the find-
gs with inoculation of immunological Th1-biased C57BL/6
ice (105). BALB/c mice that were 12 to 14 months old de-
loped symptomatic pneumonia, which correlated with the
ge-related susceptibility to acute SARS in humans (287). As
xpected, STAT-1 knockout-immunodeficient mice had fatal
nd disseminated disease (143). Transgenic mice expressing
uman ACE2 receptors also developed fatal disease, with ex-
rapulmonary dissemination to many organs including the
brain (240, 337). It is interesting that mouse-adapted SARS-
CoV strains with six amino acid mutations can also cause fatal
disseminated disease in young BALB/c mice (286). Adult F344
rats developed symptomatic disease after inoculation with pas-
saged SARS-CoV strains containing one mutation in the re-
ceptor binding domain of S (244). Ferrets (*Mustela furo*) and
domestic cats (*Felis domesticus*) were also susceptible to infec-
tion by SARS-CoV (237). The cats remained asymptomatic,
and only some of the infected ferrets died of the disease. Very
high levels of viral replication were found in infected golden
Syrian hamsters, but they generally did not develop overt clin-
ical disease (288). Similarly, inoculated common marmosets
… mild clinical disease and histopathological
… dissemination and

care, effective antivirals …
ness of immunomodulatory agents for late presenters, …
fective vaccine with no immune enhancement, and the imme-
diate animal host that transmitted the virus to caged civets in the
market at the beginning of the epidemic. Coronaviruses are well
known to undergo genetic recombination (375), which may lead
to new genotypes and outbreaks. The presence of a large reservoir of SARS-CoV-like viruses in horseshoe bats, together with the culture of eating exotic mammals in southern China, is a time bomb. The possibility of the reemergence of SARS and other novel viruses from animals or laboratories and therefore the need for preparedness should not be ignored.

2007!!

ACKNOWLEDGMENTS

This review is dedicated to the late Henry Fok for his generous support to the research on emerging infections.

We acknowledge research funding from Hui Hoy and Hui Ming, Richard Y. H. Yu and family, the HKU Special Research Achievement Award, and the Croucher Senior Medical Research Fellowship 2006-2007.

We also acknowledge the help of Huang Yi for her assistance in preparing the phylogenetic tree.

REFERENCES

1. **Ahmed, R., Q. A. Ahmed, N. A. Adhami, and Z. A. Memish.** 2002. Varicella pneumonia: another 'steroid responsive' pneumonia? J. Chemother. **14:** 220–222.
2. **Akerstrom, S., M. Mousavi-Jazi, J. Klingstrom, M. Leijon, A. Lundkvist,** … **Mirazimi.** 2005. Nitric oxide inhibits the replication cycle of severe … J. Virol. **79:**1966–1969.

"Severe Acute Respiratory Syndrome Coronavirus as an Agent of Emerging and Reemerging Infection," Vincent C. C. Cheng, Susanna K. P. Lau, Patrick C. Y. Woo, and Kwok Yung Yuen. State Key Laboratory of Emerging Infectious Diseases, Department of Microbiology, Research Centre of Infection and Immunology, The University of Hong Kong, Hong Kong Special Administrative Region, China. *Clinical Microbiology Reviews*, Oct. 2007, p. 660–694. Copyright © 2007, American Society for Microbiology. All Rights Reserved. Vol. 20, No. 4.

The Scandinavian experience

Interview with Camilla Stoltenberg at Unherd
https://youtu.be/j2ewxCPtw7w

See also:
https://www.thelocal.no/20200601/interview-why-norway-wont-have-a-second-lockdown

Quoted from Unherd:

> Camilla Stoltenberg is the Director-General of the Norwegian Institute for Public Health, which has been advising the Norwegian government on the country's Covid-19 response….
>
> But in spite of Norway's success in keeping the total number of infections low, the Director-General argues that the government's response was not that dissimilar to Sweden's but may have been too heavy-handed in certain areas.
>
> She explains that:
>
> – The evidence for wearing masks is "not good"
> – Though important, social distancing could be reduced to one metre instead of two
> – Closing down schools was not recommended as part of the lockdown
> – Norway's lockdown after the first Covid death early, possibly even "too soon"
> – These should be political decisions, and it's better for ministers to present them (like Norway) than scientists (like Sweden)
> – She is not convinced that the differences between countries comes down to early and strong action, it could be just as much luck
> – She believes that a second wave is likely BUT if there is a second wave there should not be another lockdown, only extensive testing and tracing
> – We won't go back to the old normal until a vaccine is discovered, which could take years

Sweden v. Norway

Mainstream media has often cited Sweden's as an example of a failed strategy in dealing with the virus. Sweden supposedly did more of the "herd immunity" thing and less of the enforced lockdown of, say, its neighbor, Norway. (The actual differences between these two nations' strategies is a bit less clear, but let's go with the common assumption that Sweden did less than Norway to contain the virus—Stoltenberg's comment above notwithstanding.) Sweden's death rate per million is among the highest in the world, noticeably higher than that of the US (~~though that gap is closing~~… ***it's closed as of Sept 6th***) while the death rate of the UK, despite its turn to a conventional lockdown is pulling well ahead of Sweden's. So far, then, only looking at the deaths per million number, it seems Sweden blew it. See the numbers here. Norway, by contrast, Sweden's physical and cultural neighbor, has been a resounding success compared to its neighbor, the US and the rest of Europe—and it did an *enforced* lockdown, even schools were closed.

One of architects of Norway's Covid policy, Camilla Stoltenberg, in a recent interview, makes three interesting points:

(1) Yes, Norway has escaped the death numbers of Sweden, so far. That looks like lockdown success.

(2) But, she confesses some puzzlement as to why: the Covid responses of the two nations were not that different; the main difference was that Norway used the law to force lockdown (it jailed people for ignoring quarantines) where Sweden only made polite suggestions, relying more on cooperation. Needless to say, cooperation was less effective at containing the virus than the more draconian measures taken in Norway. But the difference in stringency, by itself, doesn't seem to explain that stunning disparity in deaths per million between the two nations.

And, I think, awareness of this ineffectiveness was part of the Swedish calculation: herd immunity theory relies on either a deliberate or a laissez-faire leniency toward infection spread, the motivation for which might stem from an acceptance that the virus will do what it will do apart from any human machination or policy histrionics. That, and modest assessments of what is currently epidemiologically possible together with the realities of motivating masses of people for indefinitely extended periods of time.

And (3), she makes the point, also made by Norway's prime minister Erna Solberg, that Norway will *not* be doing the draconian lockdown thing again when the expected second wave hits. While Swedish authorities have expressed regrets that they did not protect their elderly population to the extent they should have, Norway is starting to have its own set of regrets. Closing schools was a clear mistake. It did no medical good and clear non-medical harm. Norway's economy, once one of the strongest in Europe, is now in shambles vis-a-vis Sweden's. In a matter of months, lockdown has brought Norway to its knees, sufficiently so that it will not contemplate doing the same again. And, assuming there is "herd immunity" to be gained from having had a higher infection rate, Sweden is better placed to handle a second wave.

Thus, Norway is anxious. It is a sitting duck now: it cannot afford another lockdown and the vulnerability of its population to this virus has been successfully preserved. *Thanks to a very effective lockdown.*[5]

Perhaps, there won't be a second wave. Perhaps a vaccine will save the day. Perhaps a treatment will make it bearable... Too soon to say for sure. But the coming infection season may settle something about the containment/herd immunity debate.

---

[5] What has happened in Hawaii also seems to illustrate the virus backlash in the wake of early stringent containment.

But whatever happens this Winter, there will be a price to pay for what lockdown has already accomplished...

...

"Sweden records its fewest daily Covid-19 cases since March: Chief epidemiologist puts low number of cases down to light-touch 'sustainable' approach," Jon Henley, *The Guardian* 15 September 2020.

...

"Swedish Professor: we are headed for disaster" Swedish virologist Fredrik Elgh dissents from his country's general policies on Covid. Interview with Freddie Sayers at Unherd.com.

Norwegian regrets

From: "'Was it necessary?': The PM who regrets taking tough coronavirus lockdown measures," Brooke Rolfe, News Reporter, *Yahoo News Australia,* 3 June 2020.

> Leaders in some European countries have suggested enforcing tough lockdown measures early in the COVID-19 outbreak may not have been entirely necessary.
>
> Norway's prime minister Erna Solberg said during a television interview last week with state broadcaster NRK that its approach had been over cautious.
>
> "I probably took many of the decisions out of fear. Worst case scenarios became controlling," Ms Solberg explained.
>
> She assured viewers that strict restrictions were imposed based on the international state of the disease at the time, but said that on reflection perhaps they were misguided.
>
> "Was it necessary to close schools? Maybe not. But at the same time, I think it was the right thing to do at the time. Based on the information we had, we took a precautionary

> strategy."
>
> This included closing schools and borders, which went against what the Norwegian Institute of Public Health had recommended to the government.
>
> The department has since published a report confirming the virus was not spreading as ferociously as it was predicted to, and it had already begun to subside by the time lockdowns were enforced.

See also, "Coronavirus: Norway wonders if it should have been more like Sweden: Cost of lockdown sees prime minister raise questions about strategy" *The Telegraph*, 30 May 2020.

Lockdowns are a luxury...

...successful or not, a gambit affordable only to countries with the wherewithal—like Norway, *et al.* Not in Africa. "Africa's catastrophic Covid response: Blunt, panicky lockdowns across the continent are doing far more damage than the pandemic itself," by Ian Birrell, *Unherd.com*.

Pre-infection immunity

For more on what's happening in Sweden, see also: "T-cell immunity and the truth about Covid-19 in Sweden."

"Does the Common Cold Protect You from COVID-19? There are emerging signs that some people might have heightened protection against SARS-CoV-2, perhaps thanks to recent infection by other coronaviruses," by Chris Baraniuk.

An interview with bio-statistician with Karl Friston on "immunological dark matter":

> Professor Karl Friston, like Michael Levitt, is a statistician not a virologist; his expertise is in understanding complex and dynamic biological processes by representing them in mathematical models. Within the neuroscience field he was ranked by Science magazine as the most influential in the world, having invented the now standard "statistical parametric mapping" technique for understanding brain imaging — and for the past months he has been applying his particular method of Bayesian analysis, which he calls "dynamic causal modelling", to the available Covid-19 data.

> Friston referred to some kind of “immunological dark matter” as the only plausible explanation for the huge disparity in results between countries in an interview with the *Guardian* last weekend. The eye-catching phrase attracted a lot of attention on social media, with some commentators keen to dismiss it as rubbish, but he meant it in a quite precise way: like dark matter, the undetectable substance that makes up approximately 85% of the universe, it is provably there by its effects. We just don’t know anything about it.
>
> His models suggest that the stark difference between outcomes in the UK and Germany, for example, is not primarily an effect of different government actions (such as better testing and earlier lockdowns) but is better explained by intrinsic differences between the populations that make the “susceptible population” in Germany — the group that is vulnerable to Covid-19 — much smaller than in the UK.
>
> As he told me in our interview, even within the UK, the numbers point to the same thing: that the “effective susceptible population” was never 100%, and was at most 50% and probably more like only 20% of the population. He emphasises that the analysis is not yet complete, but “I suspect, once this has been done, it will look like the effective non-susceptible portion of the population will be about 80%. I think that’s what’s going to happen.”

“Covid-19: Do many people have pre-existing immunity?” *BMJ* 2020; 370 doi: https://doi.org/10.1136/bmj.m3563 (Published 17 September 2020) Cite this as: BMJ 2020;370:m3563. There are is growing evidence of widespread pre-infection immunity. T-cells seem to behave as if they have seen this virus before.

On Physical distancing

“Current Physical Distancing Measures Are Based on ‘Outdated Science,’ Say Researchers” Carly Cassella, *Science Alert*, 28 August 2020. “A one-size-fits-all measure for physical distancing in the time of COVID-19 fails to account for numerous factors that could spread the virus further, more and more experts are coming to agree.”

On Masks

The World Health Organization has recently updated their recommendations on masks (5 June 2020): Advice on the use of masks in the context of COVID-19: Interim guidance (See full report: https://www.fnopi.it/wp-content/uploads/2020/06/OMS-MASK.pdf)

The report confirms that there are obvious contexts in which even non-medical masks are advisable for the general public, most obviously where social distancing is not easy or practical, especially indoors.

So why not play it safe and always wear a mask? Even when outdoors in non-crowded conditions? Because the benefit would be marginal. And maybe detrimental to health on the whole...

More effective than any (non-medical) mask is to be outdoors in non-crowded conditions. Again, there is a price to pay for overdoing the mask thing...

From the report:

> Guidance on the use of masks for the general public
>
> **Available evidence**
>
> Studies of influenza, influenza-like illness, and human coronaviruses (not including COVID-19) provide evidence that the use of a medical mask can prevent the spread of infectious droplets from a symptomatic infected person (source control) to someone else and potential contamination of the environment by these droplets. There is limited evidence that wearing a medical mask by healthy individuals in households, in particular those who share a house with a sick person, or among attendees of mass gatherings may be beneficial as a measure preventing transmission. A recent meta-analysis of these observational studies, with the intrinsic biases of observational data, showed that either disposable surgical masks or reusable 12–16-layer cotton masks were associated with protection of healthy individuals within households and among contacts of cases.
>
> This could be considered to be indirect evidence for the use of masks (medical or other) by healthy individuals in the wider community; however, these studies suggest that such individuals would need to be in close proximity to an infected person in a household or at a mass gathering where physical distancing cannot be achieved, to become infected with the virus.

Results from cluster randomized controlled trials on the use of masks among young adults living in university residences in the United States of America indicate that face masks may reduce the rate of influenza-like illness, but showed no impact on risk of laboratory-confirmed influenza. At present, there is no direct evidence (from studies on COVID-19 and in healthy people in the community) on the effectiveness of universal masking of healthy people in the community to prevent infection with respiratory viruses, including COVID-19.

WHO regularly monitors all emerging evidence about this important topic and will provide updates as more information becomes available.

[The report lists the following...]

Potential harms/disadvantages

The likely disadvantages of the use of mask by healthy people in the general public include:

•potential increased risk of self-contamination due to the manipulation of a face mask and subsequently touching eyes with contaminated hands;

•potential self-contamination that can occur if non-medical masks are not changed when wet or soiled. This can create favourable conditions for microorganism to amplify;

•potential headache and/or breathing difficulties, depending on type of mask used;

•potential development of facial skin lesions, irritant dermatitis or worsening acne, when used frequently for long hours;

•difficulty with communicating clearly;

•potential discomfort;

•a false sense of security, leading to potentially lower adherence to other critical preventive measures such as physical distancing and hand hygiene;

•poor compliance with mask wearing, in particular by young children;

> •waste management issues; improper mask disposal leading to increased litter in public places, risk of contamination to street cleaners and environment hazard;
>
> •difficulty communicating for deaf persons who rely on lip reading;
>
> •disadvantages for or difficulty wearing them, especially for children, developmentally challenged persons, those with mental illness, elderly persons with cognitive impairment, those with asthma or chronic respiratory or breathing problems, those who have had facial trauma or recent oral maxillofacial surgery, and those living in hot and humid environments.

Some of these may seem minimally discomforting, but the protection from wearing a mask *outdoors* while socially distanced is also as plausibly minimal.

…

Here's something I posted recently in response to comments made by some online implying that masks should be worn *at all times, even outdoors,* and that there are no risks from doing that:

> …it is not my claim that the non-medical negative consequences of wearing masks outweigh without qualification the possible medical benefits. But in the contexts mentioned earlier, it is quite plausible that they may. I repeat: walking alone on the street or in a park. I make this clear because at the beginning of this (and many similar discussions), there seems to be the presumption that masks should be worn in *every* possible circumstance where other people are in sight. This is suggested as though there were only negligible risks (some medical, many non-medical) of wearing masks. But they are not negligible. (See the report quoted above from the WHO.) Whether they are negligible for this or that person is a matter that, at the margins, ought to be an individual calculation. Again, were the benefits of wearing masks in all contexts as indisputable as we are hearing, the permissibility of letting individuals make their own trade offs might be less defensible, but in this case—the specific practice of habituating indiscriminate mask-wearing—the values compromised, those centered around individual autonomy, are not obviously of no significance. The bottom line is that social pressure to conform has to be rationally justified, and that means assessing all its costs—*all of them*—not just the medical or quantifiable. Failing to do so is also a threat to the well-being of a community every bit as much as showing little concern for the physical health of others.

> Moreover, even if we can justify overriding these non-quantifiable values in the short term because of the pandemic urgency, how far are we going to allow that justification to extend into the future? The sober medical estimates on the likelihood of a vaccine, or even an effective treatment, for Covid-19 anytime soon are bleak. All indications are, Covid-19 is not going to be a short-term problem. The non-medical consequences of the responses (face-covering, social distancing, etc.) we are taking will need to be faced squarely.

"Masks, like most short-term measures to prevent the spread of COVID-19, should be worn *only if* the wearer has to be in close proximity to others, and be used in addition to necessary measures like social distancing, and more. As such, we rate this claim about the dangers of masks as 'Mostly false.'" — https://www.snopes.com/fact-check/masks-dangerous-health/

"Mostly false" suggests "partly true."

Masks: to wear or not to wear? Don't ask the public health experts.

"How the experts messed up on Covid: Why did all the major health authorities get it so wrong back in March?" by Michael Story and Stuart Ritchie. Too many experts seem to know *for sure* what they are doing… and they assume we are idiots.

The best *rational* justification, offered to date, for mask-wearing is not the one we have been hearing from public health experts: that it acts as prophylaxis to the spread of infection—a "face condom," if you will. Rather it is *the promotion of infection with minimal doses of the virus*, aka the "variolation hypothesis." The history and evidence for the hypothesis is discussed by Dr. Keith Moran in this short video, "Could masks make you immune to COVID?" Whether this theory holds up we'll have to wait to see. But the theory that can *safe* social interaction at *practical* distances justifies the costs of mask-wearing beggars belief. We need a better excuse than that to further trash the planet.

Money is no object when it comes to health care, right?

It is sometimes suggested that economic as well as social and psychological consequences of lockdowns, social distancing, and masks must be sidelined in favor of medical concerns in our responses to the pandemic, that we cannot risk sacrificing lives by preserving pre-pandemic practices. The charge is that it is unethical to do so. I am inclined to agree, but there is a problem we must face, those of us who believe this. I spell it out:

1. SARS-Cov-2 is a variety of coronavirus. The coronavirus family includes several of the viruses associated with the common cold as well as with more serious infections such as the original SARS and MERS outbreaks of recent times.

2. Despite vast resources expended and decades of attempts, there has never been a vaccine against a coronavirus, a family of viruses known since the 1930s. There is still no cure for the common cold, nor one in the offing, it seems. The only successful vaccines against common respiratory diseases are those against certain versions of influenza. Annual flu vaccines are only about 40% effective on average and only against certain strains of influenza virus. And, what immunity these vaccines offer is limited to less than two years. Moreover, it is an ongoing and never-ending effort to keep these vaccines from becoming obsolete in light of the facility with which these viruses mutate.

3. The proximate cause of death in cases of Covid-19, the disease caused by SARS-Cov-2, is pneumonia, which is a secondary bacterial infection parasitic on the compromised respiratory system in the wake of the virus infection.

4. Many other respiratory diseases and conditions help create the conditions for pneumonia.

5. Many non-respiratory diseases also create opportunities for immune system compromise, a precursor to virus infection (by SARS-Cov-2 and other viruses), such as, diabetes, heart condition, immune system deficiencies, etc.[6]

6. Many of these pre-existing conditions and diseases *could* be better managed and controlled if health care systems were more effective than they, in fact, are. Some of these diseases and conditions are preventable and/or treatable... *In other words, if money were no object to health care.*

7. Most societies have failed to build or maintain such healthcare systems. Though, some do better than others (Scandinavia, Korea, Japan, for example), and some have more excuses than others for failing (Peru is a case in point).

8. Pandemics like Covid-19 should not have been a surprise. As early as 2007 researchers were giving very explicit warnings.

9. But money *must* have been an object, we have to infer, from the fact that these warnings were not heeded.

10. It is sometimes suggested that it is unethical to place economic concerns above the physical health and well-being of human populations.

---

[6] "CDC says 94% of COVID-19 deaths in US had underlying medical conditions," *RochesterFirst.com*, August 31, 2020. "When death from coronavirus is a matter of interpretation by Tom Avril," *The Philadephia Inquirer*, Updated: April 1, 2020.

11. Too often, this suggestion is made by the same people who thought money was, indeed, *an object*—even when money in sufficient quantities might have made a difference to our preparedness for a pandemic.

12. Hence, money must be an object. The lack of it is an impediment to adequate health care.

13. Otherwise, we would have been better prepared to weather this pandemic.

14. It was not for lack of knowledge. It was for lack of adequate funding for preventive measures.

15. So why do some think the social, economic, and psychological suffering we endure from the widely implemented containment measures is *affordable* suffering when the sacrifices that might have been made for adequate funding for preventative measures were not?

16. *Money must be an object.* Either way. Pure and simple.

17. Hence, this is not a debate about whether economic or physical well-being is more important. *Concerns about one are tightly connected with concerns about the other.*

18. We can't, at once, say we are more concerned about the health of the vulnerable than about money when we were not so concerned about them when we might have spent the money to minify their vulnerability in the first place.

…

References and commentary

1. The case of Belgium

"Belgium's coronavirus (over)counting controversy: Belgium has been blasted for its seemingly sky-high death toll from COVID-19. But as Teri Schultz explains, Belgian experts have argued it's undercounting that should be under scrutiny." *DW AKADEMIE,* 02.06.2020.

Comment: The directors of health policy in Belgium openly express a non-scientific agenda in their choosing an aberrant classification protocol for counting Covid-19 deaths. This is not an unalloyed criticism, but something to note in interpreting Belgium's outlier high rate. Belgium, like Peru, has chosen to alarm the public into action, no doubt with the best intentions, but at the price of obfuscating potentially useful information.

2. The situation in Norway

"Just a couple of weeks after the first known infection in Norway, the Norwegian government took drastic steps. They introduced the strictest emergency measures ever seen outside of wartime." More...

3. What happened/is happening in Peru?

"Peru Locked Down Early. Now It Battles One Of The Worst Coronavirus Outbreaks," *NPR*, September 8, 2020.

Comment: Both Norway and Peru locked down severely and early in the pandemic, yet the outcome could not be more different??? See http://aporia.net/public/Covid-19-deaths-per-million.html Peru, it seems, tried/s to do what Belgium did/does: scare the public into action with inflated death numbers. But the strategy has fallen on unfertile ground in Peru. It's socioeconomics are not permissive of the luxurious option to shut down human interaction. Given a choice between starving or taking one's chances with the virus, we can guess which wins. What would you do? Die of starvation or take your chances with Covid-19? People are dying in Belgium and Peru, but can we learn anything from the numbers they are giving out largely for internal **tactical** ***consumption?***

4. Lessons learned: how we were wrong… and right.

Follow up interview with Michael Levitt. "Prof Michael Levitt: here's what I got wrong," Professor Michael Levitt, Nobel Prize winner and Professor of Structural Biology at Stanford, was one of our early interviews during the lockdown era. Partly due to that interview, which has been watched over 750,000 times on YouTube, he became one of the best known dissenting scientists, arguing that the trends of Covid-19 were revealed in the numbers, and that they were much less scary than most people thought. *Unherd.com*, 28.8.20.

Comment: after admitting he made hasty and misleading predictions early on, Levitt rightly points out a convergence number in the rate of deaths per million among especially those nations with a relatively mature history with the virus. That number is 600 to 700 per million. The lesson seems to be that once the virus has achieved that many deaths in a significant sector of the human population (these "sectors'" correspond to "nations" when large enough), the disease's death rate seems to recede into the background noise of death rates from other causes endemic to that population.

Levitt also makes an excellent point about how it is hypocritical to suggest we do not, as a matter of moral righteousness, discount the lives of the elderly in Western cultures. But this happens every time medical procedures are deemed less cost-effective in older patients than the same

resources expended on younger ones, such as in heart transplants. E.g., I cannot, as a 65 year-old, insist I have just as much right to a new heart as a 20 year old, given the scarcity of the resource, and be taken seriously. Current widespread opinion would be intolerant of my insistence that I deserve that heart as much as the 20 year-old. So why is it obvious that the young should make sacrifices that will reduce the number and quality of their life-years in order to extend the lives of the elderly? Perhaps there is an argument to be made here, but it is not obvious that we typically pay more than lip service to our concern about older people. We seem perfectly willing to sacrifice their interests in most contexts, but not in the context of Covid-19. Why?

5. Excess mortality

From https://ourworldindata.org/excess-mortality-covid

Publicly available data on excess mortality

International organizations are not publishing an international database on excess mortality

Unlike statistics on confirmed COVID-19 deaths – for which several organizations such as the WHO, ECDC and Johns Hopkins University are collating data for all countries – there is no single source of data on excess mortality.

This is a major problem for policymakers, researchers, and the general public that has a need to understand the ongoing pandemic.

Several media publications and regional data sources are publishing public databases

Several media publications and regional agencies have begun publishing excess death data for some countries.

- *The Economist* published the first database on excess mortality on GitHub.
- *The New York Times* publishes its dataset on excess mortality on GitHub.
- *The Financial Times* publishes its dataset on excess mortality on GitHub.
- *Eurostat* publishes downloadable data for European countries on its website.
- *Human Mortality Database* publishes downloadable data for a number of countries on its website.

6. Post infection immunity

University of Arizona Health Sciences Study Shows SARS-CoV-2 Antibodies Provide Lasting Immunity, Oct 12, 2020. "TUCSON, Ariz. – One of the most significant questions about the novel coronavirus is whether people who are infected are immune from reinfection and, if so, for how long... To determine the answer, University of Arizona Health Sciences researchers studied the production of antibodies from a sample of nearly 6,000 people and found immunity persists for at least several months after being infected with SARS-CoV-2, the virus that causes COVID-19."

7. The "Great Barrington Declaration": three eminent scientists on a better response to Covid-19

"Covid experts: there is another way. Three eminent epidemiologists met in Massachusetts to plan a better response to the pandemic" by Sunetra Gupta, Jay Bhattacharya and Martin Kulldorff. The controversial "Great Barrington Declaration" is summed up by one of its authors, Sunetra Gupta, here:

> ...proposes a solution for how we may proceed in the face of [the layers of uncertainty surrounding the virus]. It suggests that we exploit the feature of this virus that it does not cause much harm to the large majority of the population to allow them to resume their normal lives, while shielding those who are vulnerable to severe disease and death.
>
> Under these circumstances, immunity will build up in the general population to a level that poses a low enough risk of infection to the vulnerable population that they may resume their normal lives. All of this can happen over a period of six months, and so this Focused Protection plan does not involve the permanent segregation of the vulnerable from the rest of the population.

8. The "uncommon cold" | an open letter from a virus to humanity

Dear Humans,

I am a SARS-CoV-2 virus and I am a biological phenomenon. I am not a political one. I don't know or care about your human fears or desires or even capabilities. I have a simple mission: to kill

somewhere around 600 to 700 of every one million of you on the planet. (That's just under .06% of every million.) Don't ask me why I have this mission. I just do. Ask yourself why you are here if you are in such a philosophical mood... More...

9. The John Snow Memorandum *versus* the Great Barrington Scientists

Herd immunity: contra. For an informed, if ultimately unconvincing, case *against* it, see the The John Snow Memorandum, which opposes the pro herd immunity consensus of the Great Barrington scientists.

10. Response to global pandemic will cause famines of Biblical proportions

"Coronavirus pandemic will cause global famines of 'biblical proportions,' UN warns," Rob Picheta, *CNN*, April 22, 2020. "There is also a real danger that more people could potentially die from the economic impact of Covid-19 than from the virus itself."

11. Why Germany has done so well… so far

"The German coronavirus mystery: Why have British people been dying at six times the rate of those in Germany?," *Unherd*, Tom Chivers. Early response, better preparation, targeting the vulnerable, and luck... and there was a price paid, too. ***Comment: And, finally, the story is not over, as with Norway, New Zealand, et al. These countries are well poised for Covid-19's transition from pandemic to endemic status, barring a careful*** **long term*****, focussed protection plan for the vulnerable.***

12. Will there be a vaccine? You bet. And you will pay—or have already—through the nose for it.

"The coronavirus vaccine will not be free: Americans have already paid for it — twice: The government is paying vaccine development costs plus paying for production — with a hefty profit for the makers," Charlotte Kilpatrick, *Salon*, October 18, 2020. ***Comment: You'll even pay if they*** **don't** ***find an effective vaccine. The money has already been spent. A win/win for the drug companies.***

"Yes, the vaccine is really on its way: It looks like the Pfizer breakthrough is the real deal," Tom Chivers, *Unherd*, November 10, 2020. ***Good news… maybe. Is the Pfizer vaccine preventing infections or suppressing symptoms? And why does that matter? Quoting from Chiver's piece:***

> To sum up, then: this is a really big deal. It looks like the first vaccine will arrive soon, and that it will work – much better than expected, although with slight question marks over how well it "works" on infection as well as symptoms. And it's really reassuring that vaccines work at all.
>
> What it doesn't mean is that we'll all have the vaccine tomorrow, or even this year, or perhaps even next year. And it certainly doesn't mean we can stop developing and producing the other vaccines, because each kind of vaccine will have different strengths and weaknesses — some will be easier to manufacture, some will work better in different groups. (There's a useful Twitter thread on this topic from the CEO of the biotech company GreenLight.)
>
> The best-guess timeline, that most people will probably not see a vaccine until late next year, is still reasonable. And, of course, it would be really nice to see the data from this Pfizer study, rather than just a few bullet-points and self-satisfied quotes in a press release.
>
> Nonetheless, it's exciting. It's a light at the end of the tunnel. And finally, it gives a nice straightforward answer to what it is that lockdown is supposed to be buying time *for.*

13. What is a Covid-19 case and how do we know when we have one?

Dr. Samantha Bailey asks these questions. She is part of a team of medical experts who question the mainstream literature on the basis that much of it *does not meet many of the most basic standards of biomedical science*, namely, the RCT (or randomized controlled trial), in particular. She and colleagues conclude that we—still, after more than a year!—don't have a clear understanding of what a case of Covid-19 looks like. Nor is, it seems, the so-called gold standard of tests for Covid, the PCR test, terribly effective at diagnosing a case. It detects genetic material associated with the virus—what does that have to do with an active virus infection? *Nothing*, according to the creator of the PCR test, Kary Mullins, decades ago. Mullins won the Nobel Prize for his work which revolutionized genetic research. The PCR test was always intended as a research tool, not a diagnostics one. What it detects, the presence of genetic scraps, is *not* diagnostic of any disease. Genetic scraps from all kinds of microbes pervade the biomes we swim in.

The bottom line: a novel virus, SARS Cov-2, in part because of its novelty could and was associated with other *more potent* causes of death, with which we have long been familiar: heart disease, diabetes, etc. The mortality due to these other conditions is being attributed in large measure to Covid. Covid outside comorbidity contexts is no more lethal than other respiratory diseases such as influenza. SARS Cov-2 is being scapegoated as *the* medically detectable, preventable, and treatable principle cause of these deaths.

Add to the pandemic opportunism, the irresponsible overtreatment of Covid with drugs at untested high doses such as hydroxychloroquine, remdesivere, etc. Their over-prescription at lethal doses has added to the death rates attributed to Covid. Many in the medical community do not want to admit that what they are doing is killing more than it is saving.

Why has this very real, but minor, pathogen been assigned this role?

It's profitable. Apparently, the money to be made treating well-known comorbidities more directly is not what it used to be, inviting new, more lucrative, interventions.

- A Covid-19 Case?
- PCR Pandemic: Interview with Virus Mania's Dr Claus Köhnlein
- Excess Mortality

14. Covid and civil disobedience

When even a retired Supreme Court justice thinks we may have a moral obligation to break the law… Lord Sumption on Covid lockdowns

https://unherd.com/2020/11/yes-the-vaccine-is-really-on-its-way/?tl_inbound=1&tl_groups[0]=18743&tl_period_type=3